Serial Number: 10/814,106

Filing Date: March 31, 2004

Title: CIRCUIT AND METHOD FOR TRANSFERRING LOW FREQUENCY SIGNALS VIA HIGH FREQUENCY INTERFACE

Assignee: Intel Corporation

REMARKS

This paper responds to the Office Action mailed on <u>June 12</u>, 2006.

No claims are amended, canceled, or added. Claims 1-27 remain pending in this application.

§102 Rejection of the Claims

Claims 1-5, 18-21, and 26-27 were rejected under 35 USC § 102(b) as being anticipated by Takii.

Applicant respectfully traverses for at least the reasons presented below.

Applicant believes that claims 1-5, 18-21, and 26-27 are not anticipated by Takii because Applicant cannot find in Takii everything recited in each of the claims 1-5, 18-21, and 26-27.

Independent claim 1 recites, among other things, that the signal detector is configured to hold the internal signal at a first signal level when the transfer signal "repeatedly switches" between the first signal level and a second signal level, and wherein the signal detector is configured to hold the internal signal at the second signal level when the transfer signal "stops switching".

The Office Action compares a data and clock signal 2(A) in FIG. 2 of Takii to the transfer signal of claim 1, and a missing clock detect signal 2(E) in FIG. 2 of Takii to the internal signal of claim 1.

In rejecting claim 1, the Office Action asserts that a signal detector (timer 44, FIG. 1) of Takii is configured to hold the internal signal (missing clock detect signal 2(E)) at a first signal level when the transfer signal (data and clock signal 2(A)) repeatedly switches between the first signal level and a second signal level, and the signal detector of Takii is configured to hold the internal signal at the second signal level when the transfer signal stops switching. Applicant respectfully disagrees.

FIG. 2 of Takii shows the missing clock detect signal 2(E) having a first signal level (e.g., high level) in three different instances: a first instance during time interval P₀ and one portion of time interval P₁, and second and third instances during another portion of time interval P₁. FIG. 2 of Takii also shows the missing clock detect signal 2(E) having a second signal level (e.g., low level) in two different instances during time interval P₁. As shown in FIG. 2 of Takii, the

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missing clock detect signal 2(E) has a high signal level in *both situations*: when the data and clock signal 2(A) *repeatedly switches* (e.g., the first series of C D C bits during P₀) *and* when the data and clock signal 2(A) *stops switching* (e.g., the second D bit during P₀). Similar situations can also be found in the second and third instances during P₁ where the missing clock detect signal 2(E) has a high signal level when the data and clock signal 2(A) *repeatedly switches* and when the data and clock signal 2(A) *stops switching*. Thus, in Takii, the signal detector (timer 44) holds internal signal (missing clock detect signal 2(E)) at *the same* first signal level (e.g., high) in *both situations*: when the transfer signal (data and clock signal 2(A)) repeatedly switches *and* when the transfer signal *stops* switching. In contrast, claim 1 recites that the signal detector is configured to hold the internal signal at a "first signal level" when the transfer signal "repeatedly switches" between the first signal level and a second signal level, and wherein the signal detector is configured to hold the internal signal at the "second signal level" when the transfer signal stops switching".

Based on all of the reasons presented above, Applicant believes that claim 1 not anticipated by Takii. Accordingly, Applicant requests reconsideration, withdrawal of the rejection, and allowance of claim 1. Dependent claims 2-4 depend from claim 1 and recite the things of claim 1. Thus, Applicant believes that claims 2-4 are not anticipated by Takii for at least the reasons presented herein regarding claim 1, plus the additional things recited in claims 2-4. Accordingly, Applicant requests reconsideration, withdrawal of the rejection, and allowance of claims 2-4.

Independent claim 5 recites, among other things, that "the signal detector is configured to switch the internal signal from a first signal level to a second signal level when the transfer signal repeatedly switches between the first and second signal levels, and wherein the signal detector is configured to switch the internal signal from the second signal level back to the first signal level when the transfer signal stops switching". For at least the reasons presented above regarding claim 1, Applicant cannot find in Takii a teaching or fair suggestion of "the signal detector is configured to switch the internal signal from a first signal level to a second signal level when the transfer signal repeatedly switches between the first and second signal levels, and wherein the signal detector is configured to switch the internal signal from the second signal

level back to the first signal level when the transfer signal stops switching". Accordingly, Applicant requests reconsideration, withdrawal of the rejection, and allowance of claim 5.

Independent claim 18 recites, among other things, "holding an internal signal at a first signal level when the transfer signal stays at one of the first signal level and a second signal level" and "holding the internal signal at a second signal level when the transfer signal repeatedly switches between the first and second signal levels". For at least the reasons presented above regarding claim 1, Applicant cannot find in Takii a teaching or fair suggestion of "holding an internal signal at a first signal level when the transfer signal stays at one of the first signal level and a second signal level" and "holding the internal signal at a second signal level when the transfer signal repeatedly switches between the first and second signal levels". Accordingly, Applicant requests reconsideration, withdrawal of the rejection, and allowance of claim 18. Dependent claims 19, 20, 21, 26, and 27 depend from claim 18 and recite the things of claim 18. Thus, Applicant believes that claims 19, 20, 21, 26, and 27 are not anticipated by Takii for at least the reasons presented herein regarding claim 18, plus the additional things recited in claims 19, 20, 21, 26, and 27. Accordingly, Applicant requests reconsideration, withdrawal of the rejection, and allowance of claims 19, 20, 21, 26, and 27.

§103 Rejection of the Claims

Claims 6-8 were rejected under 35 USC § 103(a) as being unpatentable over Takii in view of Janus et al.

Applicant respectfully traverses for at least the reasons presented below.

Dependent claims 6-8 depend from claim 5. Thus, Applicant believes that claims 6-8 are patentable over Takii and Janus, whether considered individually or in combination, for at least the reasons presented above regarding claim 5. Further, Applicant believes that Takii and Janus teach different things from each other. Therefore, Applicant believes that claims 6-8 are patentable over Takii and Janus because Applicant cannot find a motivation to combine the different teachings of Takii and Janus as proposed by the Office Action. Based on all of the reasons presented herein, Applicant believes that claims 6-8 are patentable over Takii and Janus, whether considered individually or in combination. Accordingly, Applicant requests reconsideration, withdrawal of the rejection, and allowance of claims 6-8.

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Claim 9 was rejected under 35 USC § 103(a) as being unpatentable over Takii in view of Oh.

Applicant respectfully traverses for at least the reasons presented below.

Dependent claim 9 depends from claim 5. Thus, Applicant believes that claim 9 is patentable over Takii and Oh, whether considered individually or in combination, for at least the reasons presented above regarding claim 5. Further, Applicant believes that Takii and Oh teach different things from each other. Therefore, Applicant believes that claim 9 is patentable over Takii and Oh because Applicant cannot find a motivation to combine the different teachings of Takii and Oh as proposed by the Office Action. Based on all of the reasons presented herein, Applicant believes that claim 9 is patentable over Takii and Oh, whether considered individually or in combination. Accordingly, Applicant requests reconsideration, withdrawal of the rejection, and allowance of claims 9.

Claim 10 was rejected under 35 USC § 103(a) as being unpatentable over Takii in view of Schoenborn.

Applicant respectfully traverses for at least the reasons presented below.

Independent claim 10 recites, among other things, "a signal detector connected to at least one of the receivers to hold an internal signal at a first signal level based on a presence of a repeated switching of a transfer signal among the input differential signals, and to hold the internal signal at a second signal level based on an absence of the repeated of switching of the transfer signal". For at least the reasons presented above regarding claim 1, Applicant cannot find in Takii and Schoenborn, whether considered individually or in combination, a teaching or fair suggestion "a signal detector connected to at least one of the receivers to hold an internal signal at a first signal level based on a presence of a repeated switching of a transfer signal among the input differential signals, and to hold the internal signal at a second signal level based on an absence of the repeated of switching of the transfer signal". Accordingly, Applicant requests reconsideration, withdrawal of the rejection, and allowance of claim 10.

Claims 11-14 were rejected under 35 USC § 103(a) as being unpatentable over Takii in view of Janus et al.

Applicant respectfully traverses for at least the reasons presented below.

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Dependent claims 11-14 depend from claim 10. Thus, Applicant believes that claims 11-14 are patentable over Takii and Janus, whether considered individually or in combination, for at least the reasons presented above regarding claim 10. Further, Applicant believes that Takii and Janus teach different things from each other. Therefore, Applicant believes that claims 11-14 are patentable over Takii and Janus because Applicant cannot find a motivation to combine the different teachings of Takii and Janus as proposed by the Office Action. Based on all of the reasons presented herein, Applicant believes that claims 11-14 are patentable over Takii and Janus, whether considered individually or in combination. Accordingly, Applicant requests reconsideration, withdrawal of the rejection, and allowance of claims 11-14.

Claims 15-17 were rejected under 35 USC § 103(a) as being unpatentable over Takii in view of Oh.

Applicant respectfully traverses for at least the reasons presented below.

Dependent claims 15-17 depend from claim 10. Thus, Applicant believes that claims 15-17 are patentable over Takii and Oh, whether considered individually or in combination, for at least the reasons presented above regarding claim 10. Further, Applicant believes that Takii and Oh teach different things from each other. Therefore, Applicant believes that claims 15-17 are patentable over Takii and Oh because Applicant cannot find a motivation to combine the different teachings of Takii and Oh as proposed by the Office Action. Based on all of the reasons presented herein, Applicant believes that claims 15-17 are patentable over Takii and Oh, whether considered individually or in combination. Accordingly, Applicant requests reconsideration, withdrawal of the rejection, and allowance of claims 15-17.

Claim 22 was rejected under 35 USC § 103(a) as being unpatentable over Takii in view of Oh.

Applicant respectfully traverses for at least the reasons presented below.

Dependent claim 22 depends from claim 18. Thus, Applicant believes that claim 22 is patentable over Takii and Oh, whether considered individually or in combination, for at least the reasons presented above regarding claim 18. Further, Applicant believes that Takii and Oh teach different things from each other. Therefore, Applicant believes that claim 22 is patentable over Takii and Oh because Applicant cannot find a motivation to combine the different teachings of Takii and Oh as proposed by the Office Action. Based on all of the reasons presented herein,

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Applicant believes that claim 22 is patentable over Takii and Oh, whether considered individually or in combination. Accordingly, Applicant requests reconsideration, withdrawal of the rejection, and allowance of claims 22.

Claims 23-24 were rejected under 35 USC § 103(a) as being unpatentable over Takii in view of Oh.

Applicant respectfully traverses for at least the reasons presented below.

Independent claim 23 recites, among other things, "holding an internal signal at a first signal level when the transfer signal stays at one of the first signal level and a second signal level" and "holding the internal signal at a second signal level when the transfer signal repeatedly switches between the first and second signal levels". For at least the reasons presented above regarding claim 1, Applicant cannot find in Takii and Oh, whether considered individually or in combination, a teaching or fair suggestion "holding an internal signal at a first" signal level when the transfer signal stays at one of the first signal level and a second signal level" and "holding the internal signal at a second signal level when the transfer signal repeatedly switches between the first and second signal levels". Accordingly, Applicant requests reconsideration, withdrawal of the rejection, and allowance of claim 23. Dependent claim 24 depends from claim 23. Thus, Applicant believes that claim 24 is patentable over Takii and Oh, whether considered individually or in combination, for at least the reasons presented above regarding claim 23. Further, Applicant believes that Takii and Oh teach different things from each other. Therefore, Applicant believes that claim 24 is patentable over Takii and Oh because Applicant cannot find a motivation to combine the different teachings of Takii and Oh as proposed by the Office Action. Based on all of the reasons presented herein, Applicant believes that claim 24 is patentable over Takii and Oh, whether considered individually or in combination. Accordingly, Applicant requests reconsideration, withdrawal of the rejection, and allowance of claims 24.

Allowable Subject Matter

Claim 25 was objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 25 depends from claim 23. Since Applicant

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

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believes that claim 23 is patentable, Applicant believes that claim 25 is also patentable as written in the current dependent form.

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Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney ((612) 373-6969) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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